

**MARYLAND HISTORICAL TRUST
DETERMINATION OF ELIGIBILITY FORM**

NR Eligible: yes ☐ no ☐

Property Name: Gwynnbrook Avenue Bridge Inventory Number: BA 2693
Address: Gwynnbrook Avenue Historic district: ☐ yes ☒ no
City: Owings Mills Zip Code: 21117-2810 County: Baltimore County
USGS Quadrangle(s): Reisterstown
Property Owner: Baltimore County Dept of Public Works Tax Account ID Number: N/A
Tax Map Parcel Number(s): 164 Tax Map Number: 58
Project: Gwynnbrook Avenue Bridge Replacement Agency: Baltimore County Dept of Public Works
Agency Prepared By: Whitman, Requardt and Associates, LLP
Preparer's Name: Sheryl Bernardo Date Prepared: 4/5/2004
Documentation is presented in: Baltimore County Bridge Inspection Report, 2001.
Preparer's Eligibility Recommendation: ☐ Eligibility recommended ☒ Eligibility not recommended
Criteria: ☐ A ☐ B ☐ C ☐ D Considerations: ☐ A ☐ B ☐ C ☐ D ☐ E ☐ F ☐ G
Complete if the property is a contributing or non-contributing resource to a NR district/property:
Name of the District/Property: _____
Inventory Number: _____ Eligible: ☐ yes Listed: ☐ yes
Site visit by MHT Staff ☐ yes ☒ no Name: _____ Date: _____

Description of Property and Justification: *(Please attach map and photo)*

Bridge No. B0202 (BA 2693) carries Gwynnbrook Avenue over a tributary of Gwynns Falls in Baltimore County, Maryland. The bridge (structure) is located east of Owings Mills Boulevard in Reisterstown, Maryland. Gwynnbrook Avenue is a two-lane roadway running in an east-west direction.

The structure is a concrete slab bridge supported on concrete abutments. The bridge was constructed in 1920 and designed by the

MARYLAND HISTORICAL TRUST REVIEW

Eligibility recommended ☐ Eligibility not recommended ☒
Criteria: ☐ A ☐ B ☐ C ☐ D Considerations: ☐ A ☐ B ☐ C ☐ D ☐ E ☐ F ☐ G

MHT Comments: *Bridge has lost integrity subsequent to 2001 determination.*

Jim VanLiman
Reviewer, Office of Preservation Services

5/17/04
Date

Becky
Reviewer, National Register Program

5/18/04
Date

200401192

ELIGIBILITY REVIEW FORM

BA 2693

Gwynnbrook Avenue Bridge

Page 2

State Highway Administration (SHA). The bridge was subsequently widened (date unknown) after the initial construction date. The original parapets were removed during the widening project. The width of the bridge, curb to curb, is 20.0 feet. The out to out width is 22 feet. The bridge is skewed 45 degrees and has a length of 23.0 feet with a 22.0 foot span. The paved roadway width is 18 feet-8 inches. The wing walls are constructed of concrete and are flared approximately 10 degrees to the centerline of the bridge. The bridge is posted for a restricted load.

A Baltimore County Bridge Inspection Report was prepared in 2001 by Parsons Brikerhoff Quade and Douglas. The report identifies that the bridge is in poor condition due to the deteriorated condition of the deck and substructure. The report identifies several deficiencies regarding the bridge structure, thus warranting replacement of the bridge. These deficiencies are indicated in the concrete slab, reinforced abutment, wing walls and soffit, as reported in the Bridge Inspection Report:

Concrete Slab: The continuous asphalt-wearing surface is lightly worn. Moderate to severe honeycombing is exhibited on the north side of the widened portion of the bridge. Near the northern end of the original structure, there is a 10'-0" x 4'-0" hollow sounding area of concrete in the soffit. Within this hollow are there is a 6'-0" long x 5" wide x 3" deep spall with exposed reinforcing steel. Severe efflorescence and stalactites have formed at the joint between the original structure and the south widened portion. The ½ inch wide joint at the widened portion of the bridge has vertical displacement of 1-1/2 inches. There is a 3" diameter x 6" deep spall adjacent to the south parapet. The concrete in the southern widened bridge portion is hollow sounding and exhibits moderate cracking with severe efflorescence.

Reinforced Concrete Abutments: The concrete abutment stems both exhibit several full height hairline cracks and hollow sounding areas. The entire length of the west stem exhibits severe scaling and exposed aggregate. The south half of the west stem exhibits 1/16" hairline diagonal and vertical cracks with severe efflorescence within the widened portion of the stem. There is approximately 1-1/2" to 2" of separation between the original and widened portions of the east abutment at the north end of the abutment. The north half of the east stem exhibits moderate to severe scaling with exposed aggregate. The original concrete in the stem at the southwest and northeast ends respectively, of the abutments is hollow sounding. The south end of the west footing is heavily worn where the stream flows against it. A 1' x 1' area of the west footing is hollow sounding.

Wing walls and soffit: Spalling, scaling and hairline cracking are exhibited on the wing walls. The soffit exhibits numerous minor cracks and moderate to severe honeycombing.

The bridge is posted for limited load capacity of 13 tons, 17 tons, and 30 tons for the H15, MD Type 3 and the MD Type 3S2 vehicles, respectively.

The Area of Potential Effect (APE) for this bridge replacement project will follow the limits of disturbance (LOD) shown on the contract plans.

MARYLAND HISTORICAL TRUST REVIEW

Eligibility recommended _____

Eligibility not recommended _____

Criteria: ___ A ___ B ___ C ___ D Considerations: ___ A ___ B ___ C ___ D ___ E ___ F ___ G

MHT Comments:

Reviewer, Office of Preservation Services

Date

Reviewer, National Register Program

Date

PRE-ELIGIBILITY REVIEW FORM

BA 2693

Gwynnbrook Avenue Bridge

Page 3

The bridge currently has a degree of compromise in regards to the amount of element destruction or replacement that has occurred over time. The total destruction or replacement of an element has major impact on that element's historic integrity, and depending on the element's importance on the historic integrity of the bridge as a whole. Bridge No. B0202 (BA 2693) has significant material deterioration of its superstructure and substructure, including its character defining elements and primary elements of importance (such as the removal of the original parapets during the undocumented bridge widening). Both the superstructure and substructure are in poor condition, having a major impact on the bridges historic integrity.

Normally a bridge replacement project that would result in the demolition of the entire structure would be considered an adverse effect. However, since the entire superstructure was expanded and substantial deterioration is present in our opinion this undertaking may not constitute an adverse effect, since the structure had already been compromised.

It is our recommendation that this bridge should be considered as not eligible for the National Register because of overall deterioration and the previous removal of character defining elements. Therefore, our Eligibility Recommendation status for the bridge is "Not Recommended".

MARYLAND HISTORICAL TRUST REVIEW

Eligibility recommended _____

Eligibility not recommended _____

Criteria: ___ A ___ B ___ C ___ D Considerations: ___ A ___ B ___ C ___ D ___ E ___ F ___ G

MHT Comments:

Reviewer, Office of Preservation Services

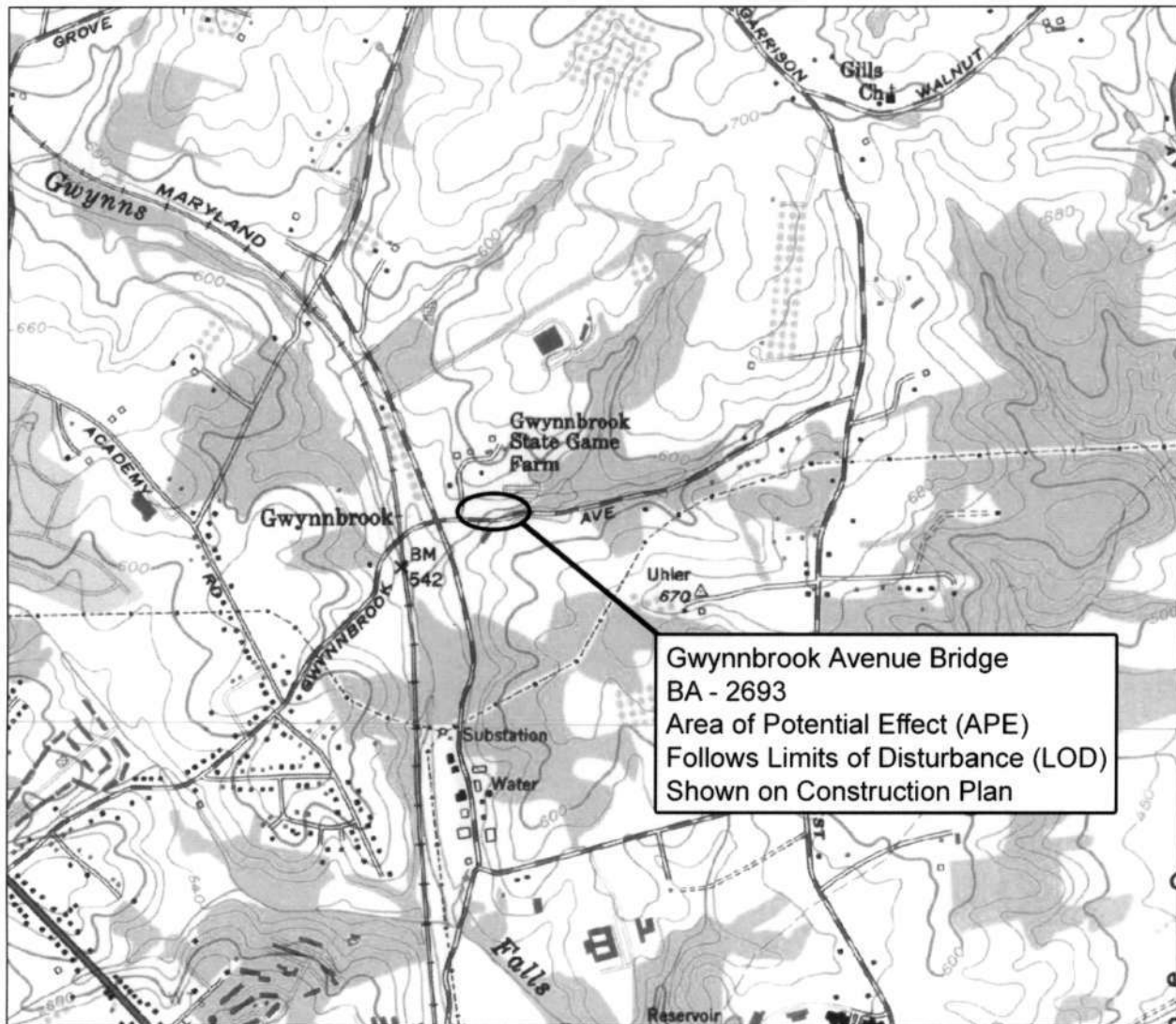
Date

Reviewer, National Register Program

Date

BA - 2693

Gwynnbrook Avenue Bridge



Reisterstown, MD 7.5 Minute Topographical USGS Quadrangle

BALTIMORE COUNTY



BA 2693

Gwynnbrook Avenue Bridge

Baltimore County, MD

photographer: Larry Murphy

Date of Photo: 4-6-04

Location of Negative: MDSAPO

North elevation of bridge
looking south east

photo 1 of 6

008 # --- 1JUN04 CUS ONE HOUR PHOTO



BA 2693

Gwynnbrook Avenue Bridge

Baltimore County, MD

photographer: Larry Murphy

Date of photo: 4-6-04

008 # --- 13JUN04 CUS ONE HOUR PHOTO

Location of Negative: MD 54 PO

South elevation of bridge looking
north east

photo 2 of 6



BA 2693

Gwynnbrook Avenue Bridge

Baltimore County, MD

photographer: Larry Murphy

Date of photo: 4-6-84

008 # --- 12UN04 CUS ONE HOUR PHOTO

Location of Negative: MD SHAPO
Spalls, Exposed Rebar, Cracking
in Bridge Deck Soffit

photo - 3 of 6



BA 2693

Gwynbrook Avenue Bridge
Baltimore County, MD

Photographer: Larry Murphy

Date of Photo: 4-6-04

Location of Negative: MD SHRD

Scaling in

Heavy efflorescence and stalactites
in Bridge Deck soffit

photo 4 of 6



BA 2693

Gwynbrook Avenue Bridge

Baltimore County, MD

Photographer: Larry Murphy

Date of photo: 4-6-04

Location of Negative: MD SHPO

Scaling in West Abutment Stern
and crack at widening interface.

photo 5 of 6



BA 2693

Gwynnbrook Avenue Bridge

Baltimore County, MD

photographer: Larry Murphy

photo Date: 4-6-04

008 # --- 12JUN04 CUS ONE HOUR PHOTO

Location of Negative: MD SHPO

Scaling in east abutment stem and
crack at widening surface.

photo 6 of 6

Maryland Historical Trust

Maryland Inventory of Historic Properties number:

Name:

The bridge referenced herein was inventoried by the Maryland State Highway Administration as part of the Historic Bridge Inventory, and SHA provided the Trust with eligibility determinations in February 2001. The Trust accepted the Historic Bridge Inventory on April 3, 2001. The bridge received the following determination of eligibility.

MARYLAND HISTORICAL TRUST

Eligibility Recommended X

Eligibility Not Recommended _____

Criteria:	A	B	C	D	Considerations:	A	B	C	D	E	F	G	None
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Comments: _____

Reviewer, OPS: Anne E. Bruder

Date: 3 April 2001

Reviewer, NR Program: Peter E. Kurtze

Date: 3 April 2001

MARYLAND INVENTORY OF HISTORIC BRIDGES
HISTORIC BRIDGE INVENTORY
MARYLAND STATE HIGHWAY ADMINISTRATION/
MARYLAND HISTORICAL TRUST

MHT No. BA-2693

SHA Bridge No. B 0202

Bridge name Gwynnbrook Avenue over Tributary of Gwynns Falls

LOCATION:

Street/Road name and number [facility carried] Gwynnbrook Avenue

City/town Owings Mills 0.1 mi E of Bonita Avenue Vicinity X

County Baltimore

This bridge projects over: Road Railway Water X Land

Ownership: State County X Municipal Other

HISTORIC STATUS:

Is bridge located within a designated historic district? Yes No X

National Register-listed district National Register-determined-eligible district

Locally-designated district Other

Name of district

BRIDGE TYPE:

Timber Bridge :

Beam Bridge Truss -Covered Trestle Timber-And-Concrete

Stone Arch Bridge

Metal Truss Bridge

Movable Bridge :

Swing Bascule Single Leaf Bascule Multiple Leaf

Vertical Lift Retractable Pontoon

Metal Girder :

Rolled Girder Rolled Girder Concrete Encased

Plate Girder Plate Girder Concrete Encased

Metal Suspension

Metal Arch

Metal Cantilever

Concrete X:

Concrete Arch Concrete Slab X Concrete Beam Rigid Frame

Other Type Name

DESCRIPTION:Setting: Urban _____ Small town _____ Rural X**Describe Setting:**

Bridge B0202 carries Gwynnbrook Avenue in an east-west direction over a tributary of Gwynns Falls, which flows in a southerly direction. The area is relatively undeveloped with open fields to both sides of the bridge, a state park adjacent to the bridge and trees on both sides of the stream.

Describe Superstructure And Substructure:

Bridge B0202 is a single span concrete slab on concrete abutments, built c. 1920. The curb to curb width is 20.0 feet and the deck out to out width is 22.0 feet. The span is 22.0 feet and the overall length of the structure is 23.0 feet. The skew is 45 degrees. The wingwalls are concrete and are flared approximately 10 degrees to the centerline of the bridge. The parapets are solid concrete and integral to the deck. The roadway supports two way traffic. The bridge is posted for restricted load. The 1993 inspection report described the bridge as in fair condition.

Discuss Major Alterations:

Baltimore County files do not indicate that any major alterations have been undertaken.

HISTORY:

WHEN was bridge built (actual date or date range) 1920

This date is: Actual X Estimated _____

Source of date: Plaque _____ Design plans _____ County bridge files/inspection form X

Other (specify) _____

WHY was the bridge built?

The need for a more efficient transportation network and increased load capacity in the decades following World War I.

WHO was the designer?

State Highway Administration

WHO was the builder?

Unknown

WHY was the bridge altered?

N/A

WAS this bridge built as part of an organized bridge-building campaign?

As part of an effort by the State to increase load capacity on secondary roads during the 1920s.

SURVEYOR/HISTORIAN ANALYSIS:

This bridge may have National Register significance for its association with:

A - Events _____ B- Person _____

C- Engineering/architectural character _____

Was the bridge constructed in response to significant events in Maryland or local history?

Reinforced concrete slab bridges are a twentieth century structure type, easily adapted to the need for expedient engineering solutions. Reinforced concrete technology developed rapidly in the early twentieth century with early recognition of the potential for standardized design. The first U.S. attempt to standardize concrete design specifications came in 1903-04 with the formation of the Joint Committee on Concrete and Reinforced Concrete of the American Society of Civil Engineers.

Maryland's road and bridge improvement programs mirrored economic cycles. The first road improvement program of the State Roads Commission was a 7 year program, starting with the Commission's establishment in 1908 and ending in 1915. Due to World War I, the period from 1916-1920 was one of relative inactivity; only roads of first priority were built. Truck traffic resulting from war-related factories and military installations generated new, heavy traffic unanticipated by the builders of the early road system. From 1920 to 1929, numerous highway improvements occurred in response to the increase in Maryland motor vehicles from 103,000 in 1920 to 320,000 in 1929, with emphasis on the secondary system of feeder roads which moved traffic from the primary roads built before World War I. After World War I, Maryland's bridge system also was appraised as too narrow and structurally inadequate for the increasing traffic, with plans for an expanded bridge program to be handled by the Bridge Division, set up in 1920. In 1920 under Chapter 508 of the Acts of 1920 the State issued a bond of \$3,000,000.00 for road construction; the primary purpose of these monies was to meet the state obligations involving the construction of rural post roads. The secondary purpose of these monies was to fund [with an equal sum from the counties] the building of lateral roads. The number of hard surfaced roads on the state system grew from 2000 in 1920 to 3200 in 1930. By 1930, Maryland's primary system had become inadequate to the huge freight trucks and volume of passenger cars in use, with major improvements occurring in the late 1930s. Most improvements to local roads waited until the years after World War II.

With a diverse topographical domain encompassing numerous small and large crossings, Maryland engineers quickly recognized the need for expedient design and construction.

In the early years, there was a need to replace the numerous single lane timber bridges. Walter Wilson Crosby, Chief Engineer stated in 1906, "The general plan has been to replace these [wood bridges] with pipe culverts or concrete bridges and thus forever do away with the further expense of the maintenance of expensive and dangerous wooden structures". Within a few years, readily constructed standardized bridges of concrete were being built throughout the state.

The creation of standard plans and a description of their use was first announced in the 1912-15 Reports of the State Roads Commission whereby bridges spanning up to 36 feet were to use standardized designs.

Published on a single sheet, the 1912 Standard Plans included those structures that were amenable to such an approach: slab spans, (deck) girder spans, box culverts, box bridges, abutments, and piers (State Roads Commission 1912). Slab spans, with lengths of 6 to 16 feet in two foot increments, featured a solid parapet that was integrated into the slab, with a roadway of 22 feet.

In the Report for the years 1916-1919, a revision of the standard plans was noted:

During the four years covered by this report, it has been found necessary to revise our standard plans for culverts and bridges, to take care of the increased tonnage which they have been forced to carry. Army cantonments...increased their operations several hundred per cent, and the brunt of the enormous truck traffic resulting therefrom, was borne by the

State Roads of Maryland. In addition to these war activities, freight motor lines from Baltimore to Washington, Philadelphia, New York, and various points throughout Maryland, and the weight of many of these trucks when loaded, was in excess of the loads for which our early bridges were designed (State Roads Commission 1920:56).

Published on separate sheets, the new standard plans (State Roads Commission 1919) for slab bridges reveal that the major changes was an increase in roadway width from 22 feet to 24 feet and a redesign of the reinforcement. The slab spans continued to feature solid parapets integrated into the span. The range of span lengths remained 6 to 16 feet, but the next year (1920) witnessed the issue of a supplemental plan for a 20 foot long slab span (State Roads Commission 1920).

Based upon documentary evidence, Baltimore County and City were the early pioneers in concrete bridge building in Maryland. The first reinforced concrete bridge documented in Maryland was the bridge at Sherwood Station, built in 1903 by Baltimore County.

Evidence from historic maps suggests that almost all of the extant concrete slab bridges built before 1940 in Baltimore County replaced earlier bridges. With the exception of two bridges, all of these structures lie on roads whose alignments have changed little since the middle of the nineteenth century. The two exceptions are both located on Shelbourne Avenue in Arbutus. Shelbourne Avenue does not appear on the 1850 map of Baltimore County but does appear on the 1915 map. Both concrete slabs bridges on Shelbourne Avenue, however, were built after 1915. The evidence therefore suggests that these two bridges were also built to replace previous structures.

When the bridge was built and/or given a major alteration, did it have a significant impact on the growth and development of the area?

There is no evidence to suggest that the construction of this bridge had a significant impact on the growth and development of this area.

Is the bridge located in an area which may be eligible for historic designation?

Would the bridge add to or detract from the historic/visual character of the potential district?

The bridge is not located in an area which may be eligible for historic designation.

Is the bridge a significant example of its type?

The bridge is an undistinguished example of a concrete slab bridge.

Does the bridge retain integrity of important elements described in Context Addendum?

The character defining elements appear to be intact.

Is the bridge a significant example of the work of a manufacturer, designer, and/or engineer?

The bridge is not a significant example of the work a manufacturer, designer, and/or engineer.

Should the bridge be given further study before an evaluation of its significance is made?

No additional study will be needed before an evaluation of the significance of this bridge is made.

BIBLIOGRAPHY:

County inspection/bridge files X SHA inspection/bridge files

Other (list):

BA-2693

SURVEYOR:

Date bridge recorded 08/15/95

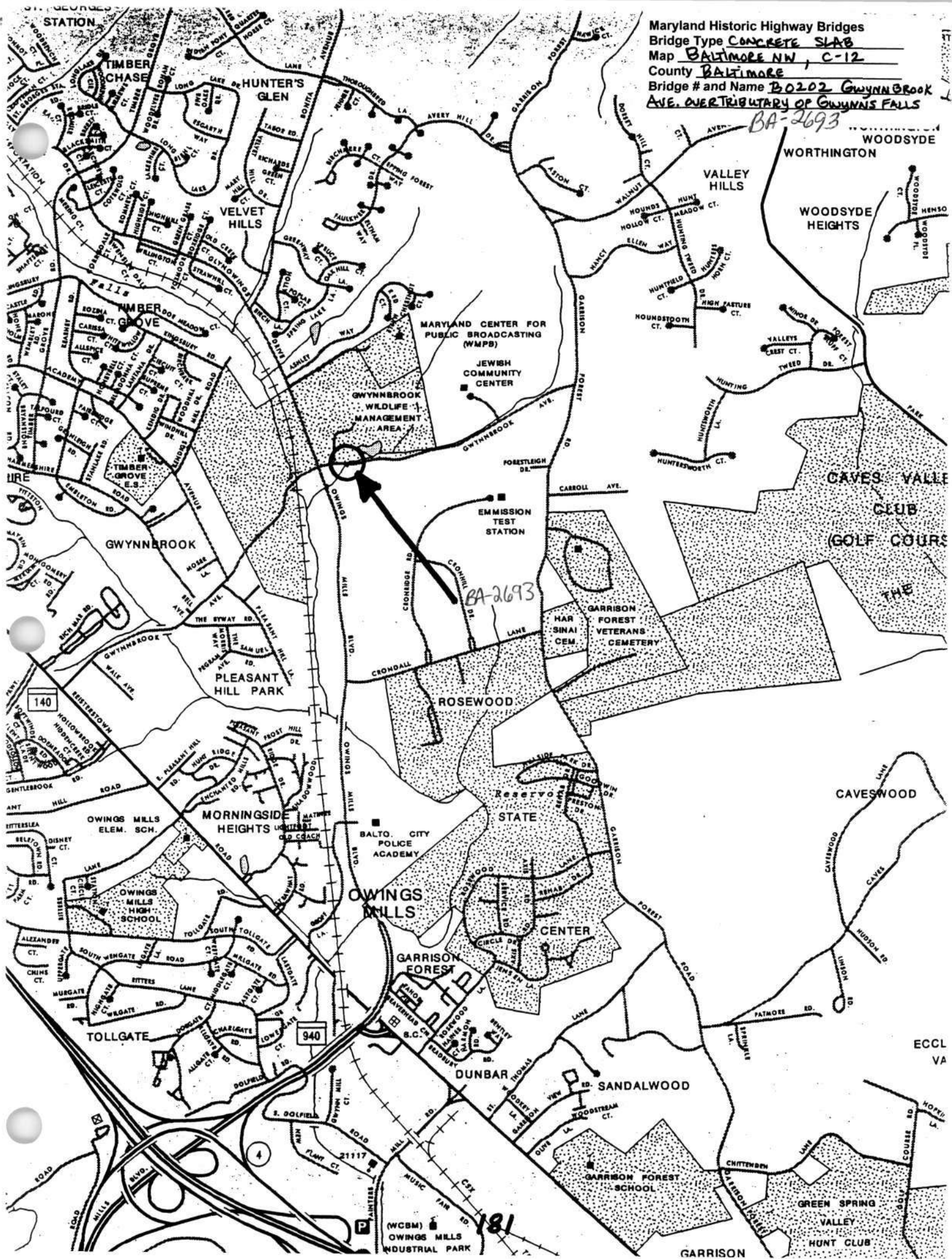
Name of surveyor Colin Farr

Organization/Address P.A.C. Spero & Company, Suite 412, 40 West Chesapeake Ave., Baltimore,
MD 21204

Phone number (410) 296-1635 **FAX number** (410) 296-1670

Maryland Historic Highway Bridges
Bridge Type CONCRETE SLAB
Map BALTIMORE NW, C-12
County BALTIMORE
Bridge # and Name B0202 Gwynnbrook
Ave. Overtributary of Gwynns Falls

BA-2693





WEIGHT
LIMIT
12T
17T
20T

Inventory # BH 2693
B0202- GWYNN BROOK AVE OVER A TRIBUTARY
Name OF GWYNN'S FALLS
County/State BALTIMORE COUNTY / MD
Name of Photographer DAVE DIEHL
Date 1/95

Location of Negative SHA

Description WEST APPROACH LOOKING
EAST

Number 1 of 32 4
18



Inventory # 3A-2693
10202-GWYNN BROOK AVE OVER A TRIBUTARY
Name DF GWYNNS FALLS
County/State BALTIMORE COUNTY/MD
Name of Photographer DAVE DIEHL
Date 1/95

Location of Negative SHA

Description NORTH ELEVATION LOOKING
SOUTHEAST

Number 2 of 34



Inventory # BA 2493

60202 - GWINN BROOK AVE OVER A TRIBUTARY
Name OF GWINNS FALLS

County/State BALTIMORE COUNTY / MD

Name of Photographer DAVE DEHL

Date 1/95

Location of Negative SWA

Description SOUTH ELEVATION LOOKING
WEST

3
Number 20 of 24



Inventory # BA 2693

00202 - GWYNN BROOK AVE OVER A TRIBUTARY

Name DF GWYNNS FALLS

County/State BALTIMORE COUNTY/MD

Name of Photographer DAVE DIEHL

Date 1/95

Location of Negative SHA

Description EAST APPROACH LOOKING
WEST

Number 4 of 34 4